

ABSTRACT

Markers for detecting and staging chondrogenesis in cells are provided. In one aspect the markers are isolated polynucleotides, referred to hereinafter as CZF-1 and CZF-2, and fragments thereof. In one embodiment, the CZF-1 polynucleotide comprises the open reading frame sequence set forth in SEQ ID NO.1. In one embodiment, the CZF-2 polynucleotide comprises the open reading frame sequence set forth in SEQ ID NO. 3. In another aspect the markers are antibodies, which are immunospecific for proteins encoded by CZF-1 or CZF-2. Methods which employ the present markers to identify cells that have begun to differentiate into chondrocytes are provided. The present invention also relates to the CZ-1 protein and the CZ-2 protein and to polynucleotides or oligonucleotides whose sequences are complementary to the coding sequences of CZF-1 or CZF-2, or regions thereof.